

Listing of Claims:

1. (Currently amended) A flats mail autotraying autotrayer system comprising:
a stack accumulator having means for combining multiple small stacks of mailpieces into a single large stack of mailpieces while maintaining sequence order; and
the stack accumulator also having means for transferring said large stack to a tray.
2. (Previously presented) The system of Claim 1, further comprising means for releasably engaging a tray.
3. (Canceled)
4. (Previously presented) The system of Claim 1, wherein said means for combining includes a fork lift assembly.
5. (Currently amended) The system of Claim 4, wherein said fork lift assembly is selectively raised and lowered, and is selectively positionable into and out of engagement contact with said large stack during a fork lift cycle.
6. (Previously presented) The system of Claim 1, wherein said means for transferring includes a plurality of driven rollers.
7. (Previously presented) The system of Claim 6, wherein said means for transferring further includes a means for pushing.
8. (Currently amended) A method of flats mail autotraying, comprising the steps of:
combining multiple small stacks of mailpieces into a single large stack of mailpieces while maintaining sequence order, via a stack accumulator having means for combining; and
transferring said large stack to a tray, via the stack accumulator having means for transferring.

9. (Previously presented) The method of Claim 8, further comprising the step of releasably engaging a tray during the step of transferring.
10. (Canceled)
11. (Previously presented) The method of Claim 8, wherein said step of combining includes using a fork lift assembly.
12. (Previously presented) The method of Claim 11, wherein said step of combining includes the step of selectively raising and lowering said fork lift assembly, and selectively positioning said fork assembly into and out of engagement with said large stack during a fork lift cycle.
13. (Previously presented) The method of Claim 8, wherein said step of transferring includes the step of driving a plurality of rollers in contact with said large stack.
14. (Previously presented) The method of Claim 13, wherein said step of transferring further includes the step of pushing said large stack.
15. (Currently Amended) [[An]] A flats mail autotraying apparatus for combining multiple small stacks of mailpieces into a single large stack of mailpieces and then transferring the large stack to a standard flats mail tray, comprising:
- a bridge conveyor;
- a stack accumulator proximate said bridge conveyor; and
- an output tray station proximate said stack accumulator;
- said stack accumulator sequentially bridge conveyor receiving a stream of small stacks of mailpieces and sequentially delivering said small stacks of mailpieces to said stack accumulator;
- said stack accumulator including means for combining said small stacks of mailpieces into said large stack in a desired sequence, and means for transferring said large stack to said tray;

said output tray station engaging an empty tray as said large stack is transferred to the tray, and releasing said tray once filled.

16. (Previously presented) The apparatus of Claim 15, wherein said stack accumulator maintains a sequence order of the mailpieces in said large stack by placing successive small stacks on the bottom of the large stack.

17. (Canceled)

18. (Canceled)

19. (Currently amended) The apparatus of Claim 15, wherein ~~said stack accumulator~~ the means for combining includes a fork lift assembly.

20. (Currently amended) The apparatus of Claim 19, wherein said fork lift assembly ~~releasably engages~~ selectively lifts and drops said large stack.

21. (Previously presented) The apparatus of Claim 20, further comprising a sensor for initiating a fork lift cycle when each of said small stacks of mailpieces advances into said sensor.

22. (Previously presented) The apparatus of Claim 21, wherein said fork lift extends under and holds said large stack above each of said small stacks of mailpieces, retracts when said fork lift cycle is initiated, releasing said large stack onto each of said small stacks of mailpieces, lowers to a position under said large stack, advances back under said large stack, and raises to lift said large stack to complete said fork lift cycle.

23. (Currently amended) The apparatus of Claim 15, wherein ~~said stack accumulator~~ the means for transferring includes a plurality of rollers.

24. (Previously presented) The apparatus of Claim 23, wherein said plurality of rollers includes driven bottom rollers and driven side rollers.

25. (Previously presented) The apparatus of Claim 23, wherein said plurality of rollers includes a top roller.

26. (Previously presented) The apparatus of Claim 25, further comprising a stack height limit sensor, said top roller being operatively connected to a pivot arm, said pivot arm raising as successive small stacks are added to said large stack, said pivot arm triggering said stack height limit sensor upon said large stack reaching a predetermined height.

27. (Previously presented) The apparatus of Claim 26, wherein said stack accumulator transfers said large stack to said tray upon said stack height limit sensor being triggered.

28. (Previously presented) The apparatus of Claim 27, wherein said plurality of rollers cooperate to transfer said large stack to said tray.

29. (Previously presented) The apparatus of Claim 15, wherein said stack accumulator includes a plurality of guides.

30. (Previously presented) The apparatus of Claim 29, wherein said plurality of guides includes a side guide assembly.

31. (Previously presented) The apparatus of Claim 30, wherein said side guide assembly is retractable.

32. (Previously presented) The apparatus of Claim 30, wherein said side guide assembly includes high friction belt strips.

33. (Previously presented) The apparatus of Claim 29, wherein said plurality of guides includes a rear guide assembly.

34. (Previously presented) The apparatus of Claim 33, wherein said rear guide assembly is a flexible belt.

35. (Previously presented) The apparatus of Claim 15, wherein said stack accumulator includes a gate.

36. (Previously presented) The apparatus of Claim 15, wherein said stack accumulator includes a pusher arm.

37. (Previously presented) The apparatus of Claim 15, wherein said output tray station includes a tray latch assembly.

38. (Previously presented) The apparatus of Claim 15, wherein said output tray station includes a tray support ledge.

39. (Previously presented) The apparatus of Claim 15, wherein said output tray station includes at least one mail guide.

40. (Currently amended) A method of flats mail autotraying for combining multiple small stacks of mailpieces into a single large stack of mailpieces and then transferring the large stack to a standard flats mail tray, said method comprising the steps of:

receiving ~~conveying~~ a stream of small stacks of mailpieces [[to]] in a stack accumulator ~~via a bridge conveyor;~~

combining said small stacks of mailpieces into said large stack in a desired sequence via said stack accumulator; and

transferring said large stack to said tray via said stack accumulator.

41. (Previously presented) The method of Claim 40, further comprising the step of: releasably engaging a tray in an output tray station proximate said stack accumulator.

42. (Previously presented) The method of Claim 40, wherein said step of combining includes the step of maintaining a sequence order of the mailpieces in said large stack by placing successive small stacks on the bottom of the large stack.

43. (Currently amended) The method of Claim 42, wherein said step of maintaining a sequence order includes the steps of:

engaging lifting and holding said large stack above a surface of said stack accumulator via a fork lift assembly;

advancing said small stack on said surface and under said large stack;

retracting said fork lift assembly to release said large stack onto said small stack;

lowering said fork lift assembly to a position below said large stack;

advancing said fork lift assembly back under said large stack; and

raising said fork lift assembly to lift said large stack to complete a fork lift cycle.

44. (Previously presented) The method of Claim 43, further comprising the step of sensing an advancing small stack via a sensor to initiate said fork lift cycle.

45. (Canceled)

46. (Previously presented) The method of Claim 40, wherein said step of transferring further includes the step of driving a plurality of rollers in said stack accumulator to transfer said large stack to said tray.

47. (Previously presented) The method of Claim 46, further comprising the step of opening a stack transfer gate to allow said large stack to be advanced by said plurality of rollers.

48. (Previously presented) The method of Claim 46, further comprising the step of sensing the height of said large stack via a sensor to initiate said step of transferring.

49. (Previously presented) The method of Claim 46, further comprising the step of activating a pusher arm to engage and push said large stack to assist in the step of transferring.

50. (Previously presented) The method of Claim 41, wherein said step of releasably engaging includes the step of engaging said tray with a tray latch assembly.

51. (New) The system of Claim 1, wherein the stack accumulator further comprises at least one of a side guide assembly and a rear guide assembly.
52. (New) The system of Claim 2, wherein the means for releasably engaging a tray includes a tray latch assembly and a tray support ledge.
53. (New) The system of Claim 5, further comprising a sensor for initiating the fork lift cycle when one of the small stacks of mailpieces is sensed by the sensor.
54. (New) The system of Claim 53, wherein the fork lift assembly extends under and holds the large stack above one of the small stacks of mailpieces, retracts when the fork lift cycle is initiated, releasing the large stack onto one of the small stacks of mailpieces to create a new large stack, lowers to a position under the new large stack, advances back under the new large stack, and raises to lift the new large stack to complete the fork lift cycle.
55. (New) The system of Claim 6, wherein said plurality of rollers includes a top roller operatively connected to a pivot arm, the pivot arm raising as successive small stacks are added to the large stack, the pivot arm triggering a stack height limit sensor upon the large stack reaching a predetermined height, whereupon the stack accumulator transfers the large stack to the tray.